

ABSTRACT OF THE DISCLOSURE

A gate structure composed of a tunnel insulation film, a floating gate electrode, a capacitive insulation film and a control gate electrode is formed on a semiconductor substrate.

- 5 Then, ion injection adjustment films that are in contact with the floating gate electrode at least on the side surfaces of the floating gate electrode are formed. After injecting impurity ions into the active region beside the gate structure in the semiconductor substrate while using the gate structure and the
- 10 ion injection adjustment film as masks, the injected impurity ions are diffused thermally by performing heat treatment on the active region. Film thickness of the ion injection adjustment film is selected to a value to prevent the impurity ions from being injected into the tunnel insulation film and allows the impurity
- 15 ions to reach lower portions of side end of the floating gate electrode in the active region as a result of diffusive scattering of impurity ions in the semiconductor substrate.